

**FLUID DELIVERY SYSTEM, FLUID CONTROL DEVICE, AND METHODS
ASSOCIATED WITH THE FLUID DELIVERY SYSTEM AND FLUID CONTROL
DEVICE**

ABSTRACT OF THE DISLOSURE

The fluid delivery system generally includes a source of injection fluid, a pump device a fluid path set disposed between the source of injection fluid and the pump device, and a fluid control device. The fluid path set includes a multi-position valve. The fluid control device is operatively associated with the fluid path set and includes a valve actuator adapted to operate the multi-position valve. The valve actuator is adapted to close the multi-position valve to isolate the pump device from a patient and stop flow of the injection fluid to the patient at substantially any pressure or flow rate generated by the pump device for delivering a sharp bolus of the injection fluid to the patient. The valve actuator is generally adapted to selectively place the pump device in fluid communication with the source of injection fluid for supplying the injection fluid to the pump device and the patient.